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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/414,518	10/08/1999	BRIAN YANG	EM/YANG/5037	3398

7590 03/24/2004  
BACON & THOMAS  
625 SLATERS LANE  
4TH FLOOR  
ALEXANDRIA, VA 22314

EXAMINER

GRIER, LAURA A

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/414,518

**Applicant(s)**

YANG ET AL.

**Examiner**

Laura A Grier

**Art Unit**

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 28-30 and 32-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 28-30, 33-36 and 41-43 is/are rejected.
- 7) ☒ Claim(s) 37-40 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. The indicated allowability of claims 29-30, 32-43 is withdrawn in view of the reference(s) to Kobayashi, U.S. Patent No. 4992483.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 28-29, 32-34, 36, 41 and 43** are rejected under 35 U.S.C. 102(b) as being anticipated by Kobayashi, U. S. Patent No. 4922483.

**Regarding claims 28-29**, Kobayashi discloses a multi-channel PCM music broadcasting system (figures 1-3). Kobayashi discloses blocks, each block representing a music source, wherein the music source (which indicates voice signals) may include one or more channels, using a digital or analog signal (Col. 2, lines 49-53 and col. 3, lines 9-14), which constitutes generating digital voice signals and transmitting the voice signals through a plurality of channels; each block including the channels (each channel) is time division multiplexed, which indicates time division sampling of voice signal according to period channel selecting; and modulated prior to transmission, wherein the adjustment of the magnitude is inherent as evident by modulation; and the signal is transmitted as a combined signal via the mixer (col. 2, lines 49-65)

which reads on a multi-channel sampled signal; to a receiver, wherein the signal is processed via D/A conversion to analog signal which indicates being generated as an voice output signal.

Regarding **claim 32**, Kobayashi discloses everything claimed as applied above (see claim 28). Thus it is inherent that the each voice signal is sampled a least once as evident by the TDM technique.

**Regarding claim 33**, Kobayashi discloses a mufti-channel PCM music broadcasting system (figures 1-3). Kobayashi discloses blocks, each block representing a music source, wherein the music source (which indicates voice signals) may include one or more channels, using a digital or analog signal (Col. 2, lines 49-53 and col. 3, lines 9-14), which constitutes generating digital voice signals and transmitting the voice signals through a plurality of channels; each block including the channels (each channel) is time division multiplexed, which indicates time division sampling of voice signal according to periodic channel selecting; and modulated prior to transmission, wherein the adjustment of the magnitude is inherent as evident by modulation; and the signal is transmitted as a combined signal via the mixer (col. 2, lines 49-65) which reads on a multi-channel sampled signal; to a receiver (figure 2), wherein the is coupled with a channel selection controller (27) which is coupled to a D/A conversion to analog signal which indicates being generated as an voice output signal and a voice generator for modulating the multi-channel signal via speakers, wherein the speaker(s) is inherently supported as evident by the left and right channels.

Regarding **claim 34**, Kobayashi discloses everything claimed as applied above (see claim 33). Thus it is inherent that the period of channel selecting signal corresponds to the number of channels as evident by the TDM technique.

Regarding **claims 36 and 41**, Kobayashi discloses everything claimed as applied above (see claim 33). Kobayashi discloses a D/A converters, which inherently supports adjusting the magnitudes and converting to signal to an output voice signal.

Regarding **claim 43**, Kobayashi discloses everything claimed as applied above (see claim 33). Thus it is inherent that the each voice signal is sampled a least once as evident by the TDM technique.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 30, 35 and 42** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi.

Regarding **claims 30 and 35**, Kobayashi discloses everything claimed as applied above (see claim 28). Kobayashi discloses bit quantization of the digital signals involved in the TDM technique. However, Kobayashi fails to specifically disclose the signal have an eight bit signal. However, an eight bit digital signal is commonly used for transmission of voice signals. Thus it is obvious to provide the digital signals of Kobayashi with a bit value of 8-bit for providing a commonly used field size (6 to 8 bits) of a digital signal when transmitted to comprises a single byte signal.

Regarding claim 42, Kobayshi discloses everything claimed as applied above (see claim 42). The examiner takes official notice that the use of power amplifiers was well known in the art. Thus it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Kobayashi by coupling a power amplifier to the D/A converters prior to output to the speaker(s) for the purpose of enhancing the signal strength of the output voice for efficient quality sound, wherein power amplifiers are commonly used components in the art of audio signal processing.

6. **Claims 37-40** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

7. The applicant did not present any arguments. The remarks were only made in respect the amended change. Kobayashi has been re-presented for the rejection of the claimed invention in respect to the interpretation of the claim language.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura A Grier whose telephone number is (703) 306-4819. The examiner can normally be reached on Monday - Friday, 7:30 am - 4:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**Or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

LAG  
March 15, 2004

  
MINSUN OH HARVEY  
PRIMARY EXAMINER